



QUARTERLY GROUNDWATER MONITORING REPORT

Third Quarter 2005 (Thirteenth Quarterly)

Sampled on September 30, 2005

Job # SP-160

LOP # 12341

Big Oil & Tire - McKinleyville BP (McKinleyville 76)

2698 Central Avenue

McKinleyville, California 95519

December 5, 2005

This *Quarterly Groundwater Monitoring Report* was prepared by SounPacific Environmental Services (SounPacific) staff for Big Oil and Tire Co. (BO&T), using previous studies that were conducted by Clearwater Group, Inc. (CGI), SounPacific, and a review of relevant files conducted at Humboldt County Department of Health and Human Services: Division of Environmental Health (HCDEH). The station is located at 2698 Central Avenue in McKinleyville, California (Figure 1).

SITE DESCRIPTION

The station is positioned on the northwest corner of the intersection of Central Avenue and Reaser Road (Figure 1), approximately 1.5 miles north of downtown McKinleyville. Site improvements include a single story building and two (2) dispensers. The structure is approximately 800 square feet in size and is positioned near the western property line facing east towards Central Avenue. The site is surfaced around the current structure with concrete and asphalt. There is currently one (1) 15,000-gallon split compartment underground storage tank (UST) containing regular gasoline and premium gasoline, positioned approximately 17 feet from the southern property line. A mixer

located at the dispensers creates mid-grade gasoline. Sewer and water services are supplied by public utilities. Drainage ditches and municipal storm sewers control surface water runoff. All electrical and telephone lines are above ground (Figure 2).

SITE TOPOGRAPHY AND LAND USE

Site topography is relatively flat. The site elevation is approximately 114 feet above mean sea level (amsl). Regional topography consists of rolling terrain that gently slopes to the west toward the Pacific Ocean (Figure 1). The site is located approximately 1.5 miles east of the Pacific Ocean. According to USGS maps, the site is located approximately 1,000 feet south of Norton Creek and 1,000 feet north of Widow White Creek.

This site is located on the uplifted Savage Creek Marine Terrace, which dates at roughly 83,000 years before present. The Savage Creek Marine Terrace deposits consist mainly of sand, with minor amounts of silt, clay, and gravel. These sediments were deposited on wave-cut benches that have since become exposed through tectonic uplift and changes in sea level. These marine terrace deposits are typically up to a few tens of feet thick and are late Pleistocene in age (Carver and Burke, 1992).

SounPacific understands that the property is owned by BO&T of Arcata, California. The main structure is used as a retail gas station for the dispensing of three (3) grades of unleaded gasoline from the USTs onsite. A mini-mart that is combined with a cashiers' office is located inside the main structure.

The surrounding land use in the immediate vicinity is a mixture of commercial and residential. Properties to the immediate north and south of the site are commercial with residential properties located to the east and west of the site. This site is bordered on the south by Reasor Road and to the east by Central Avenue. An apartment complex is located adjacent to the west of the property.

RESULTS OF QUARTERLY SAMPLING

Under approval of HCDEH, SounPacific is continuing with quarterly groundwater monitoring until further notice. Quarterly water level data will be input into a standard three-point gradient problem to generate a two-dimensional groundwater gradient map and calculate groundwater flow direction. Quarterly sampling events will monitor the fluctuation of hydrocarbon contamination levels present beneath the site. Monitoring wells were gauged and sampled on September 30, 2005.

FIELD DATA

Wells gauged: MW-1, 2, 3, 4, and 6
Groundwater: Ranged from 108.02 to 108.24 feet amsl (Table 1)
Floating product/sheen: None
GW flow direction: West-southwest (Figure 3)
GW gradient: 0.004 feet per foot (Figure 3)

On September 30, 2005, the depth to groundwater in the site's five (5) monitoring wells ranged from 5.57 feet below top of casing (btoc) in well MW-2 to 7.11 feet btoc in well MW-4. When corrected to mean sea level, water level elevations ranged from 108.02 feet amsl in well MW-1 to 108.24 feet amsl in well MW-2. Groundwater levels for the September 30, 2005 monitoring event, along with historical levels and elevations are included in Table 1. Groundwater flow was towards the west-southwest at a gradient of 0.004 feet per foot. The groundwater flow and gradient are graphically depicted in Figure 3. Prior to sampling, all wells were purged; the groundwater field parameters for each well are presented below.

MONITORING WELL MW-1 GROUNDWATER FIELD PARAMETERS

Time	Total Vol. Removed/ gal	pH	Temp./ F	Cond./ ms(cm)⁻¹
2:28 pm	0	6.90	65.79	0.473
2:35	1	6.97	65.63	0.444
2:39	2	7.00	65.82	0.452
2:41	3	7.04	65.70	0.439

MONITORING WELL MW-2 GROUNDWATER FIELD PARAMETERS

Time	Total Vol. Removed/ gal	pH	Temp./ F	Cond./ ms(cm)⁻¹
2:58 pm	0	7.02	65.69	0.433
3:02	1.2	7.04	64.95	0.339
3:04	2.4	7.11	64.83	0.241
3:08	3.6	7.05	64.67	0.208

MONITORING WELL MW-3 GROUNDWATER FIELD PARAMETERS

Time	Total Vol. Removed/ gal	pH	Temp./ F	Cond./ ms(cm)⁻¹
3:23 pm	0	6.95	65.07	0.516
3:26	1	7.01	64.30	0.517
3:29	2	7.09	64.34	0.516
3:31	3	7.10	64.21	0.514

MONITORING WELL MW-4 GROUNDWATER FIELD PARAMETERS

Time	Total Vol. Removed/ gal	pH	Temp./ F	Cond./ ms(cm)⁻¹
3:45 pm	0	7.12	62.41	0.290
3:48	1	7.01	62.00	0.260
3:52	2	6.85	62.10	0.257
3:54	3	6.77	62.01	0.247

MONITORING WELL MW-6 GROUNDWATER FIELD PARAMETERS

Time	Total Vol. Removed/ gal	pH	Temp./ F	Cond./ ms(cm)⁻¹
4:08 pm	0	7.00	63.85	0.444
4:10	1	7.07	63.07	0.356
4:13	2	7.10	63.10	0.327
4:15	3	7.15	63.02	0.291

ANALYTICAL RESULTS

Sampling locations: MW-1, 2, 3, 4, and 6

Analyses performed: TPHg, BTXE, MTBE, DIPE, TAME, ETBE, TBA, TPHd, TPHmo

Laboratories used: Basic Laboratory, Inc., Redding, California (Cert No. 1677)

The analytical results for the current monitoring event are presented on the next page and graphically depicted in Figure 4. The laboratory report is included as Appendix A. The historical analytical results for all monitoring wells, since the implementation of groundwater monitoring are included as Table 2.

	<u>MW-1</u> (ppb)	<u>MW-2</u> (ppb)	<u>MW-3</u> (ppb)	<u>MW-4</u> (ppb)	<u>MW-6</u> (ppb)
TPHg:	21,200	1,020	6,910	ND < 50	6,340
Benzene:	ND < 50.0	39.0	279	ND < 0.5	884
Toluene:	ND < 50.0	3.3	46.8	ND < 0.5	ND < 25.0
Xylenes:	ND < 100	22.4	35.9	ND < 1.0	ND < 50.0
Ethylbenzene:	ND < 50.0	7.6	244	ND < 0.5	ND < 25.0
MTBE:	24,000	117	108	ND < 1.0	7,410
DIPE:	ND < 50.0	ND < 0.5	ND < 2.5	ND < 0.5	ND < 25.0
TAME:	79.0	5.3	15.6	ND < 0.5	224
ETBE:	ND < 50.0	ND < 0.5	ND < 2.5	ND < 0.5	ND < 25.0
TBA:	ND < 5,000	ND < 50.0	ND < 250	ND < 50.0	ND < 2,500
TPHd:	114	333	3,050	ND < 50	194
TPHmo:	70	ND < 50	147	53	56

COMMENTS AND RECOMMENDATIONS

On September 30, 2005, the 13th quarterly groundwater monitoring event for the five (5) onsite monitoring wells was conducted at the McKinleyville 76, which is located at 2698 Central Avenue in McKinleyville, California. A summary of the results are presented below.

- The depth to groundwater in the five (5) onsite wells ranged between 5.57 feet btoc (MW-2) to 7.11 feet btoc (MW-4). Groundwater flow was towards the west-southwest at a gradient of 0.004 feet per foot.
- Groundwater samples from the five (5) onsite wells were collected and analyzed for TPHg, BTXE, five (5) fuel-oxygenates, TPHd, and TPHmo. Laboratory results reported TPHg in four (4) wells at concentrations that ranged from 1,020 ppb (MW-2) to 21,200

ppb (MW-1). Benzene was reported in three (3) wells at concentrations that ranged from 39.0 ppb (MW-2) to 884 ppb (MW-6). Toluene, xylenes, and ethylbenzene were reported in wells MW-2 and MW-3 only, with at concentrations of toluene at 3.3 ppb (MW-2) and 46.8 (MW-3), xylenes at 22.4 ppb (MW-2) and 35.9 ppb (MW-3), and ethylbenzene at 7.6 ppb (MW-2) and 244 ppb (MW-3). MTBE was reported in all wells except MW-4, at concentrations that ranged from 108 ppb (MW-3) to 24,000 ppb (MW-1). TAME was reported in the same four (4) wells at concentrations that ranged from 5.3 ppb (MW-2) to 224 ppb (MW-6). TPHd was reported in four (4) wells at concentrations that ranged from 114 ppb (MW-1) to 3,050 ppb (MW-3). TPHmo was reported in all wells except MW-2, at concentrations that ranged from 53 ppb (MW-4) to 147 ppb (MW-3).

Based upon these results the following observations and conclusions have been made:

- TPHg has been reported consistently in all wells except MW-4, during the majority of the sampling events to date. Concentrations have been very high, with fluctuating levels ranging from 10^3 to 10^4 ppb in MW-1, MW-3, and MW-6. See Figures 5, 6, 7, and 9.
- BTXE have consistently been reported in all wells except MW-1 and MW-4. BTXE have been reported in MW-1, with their absence possibly due to the elevated reporting limits. Concentrations are generally high and fluctuating, with benzene being the most frequently reported constituent. See Figures 5, 6, 7, and 9.
- MTBE has been reported in wells MW-1, MW-3, and MW-6 at concentrations ranging from 10^2 to 10^4 ppb, during every monitoring event since the inception of the monitoring program. MTBE has been reported in well MW-2 during all but one of the sampling events at varying concentrations. MTBE was reported in MW-4 at low concentrations during four (4) of the initial five (5) sampling events, but has not been reported since the 2nd Quarter 2003 sampling event. See Figures 5, 6, 7, 8, and 9.

- TAME has been reported in wells MW-1 and MW-6 during various sampling events at varying concentrations; however, when not reported, reporting limits were normally elevated. TAME was not reported in MW-2 until the last three (3) monitoring events, when it has been present at low concentrations. TAME has consistently been reported in well MW-3, although concentrations have been decreasing with time. TAME has not been reported in MW-4 since the 1st Quarter 2003 sampling event.
- DIPE and ETBE have not been reported since the inception of the monitoring program.
- TBA has appeared infrequently in wells MW-1, MW-3, and MW-6. TBA has never been reported in well MW-2 and MW-4.
- TPHd has been detected during most sampling events at high and fluctuating concentrations in all wells except MW-4, in which TPHd has only appeared three (3) times since the inception of the monitoring. TPHd concentrations have been reported at the highest concentrations in well MW-3. Overall, TPHd concentrations in wells MW-1 and MW-4 appear to be decreasing. See Figures 5, 6, 7, 8, and 9.
- TPHmo has been reported in all wells at various times since the inception of the monitoring. The highest concentrations of TPHd reported have been from wells MW-1, MW-3, and MW-6.

Based on the results of the September 2005 monitoring event and historical results, the following future activities are proposed:

- Groundwater monitoring will be continued until further notice. Groundwater level measurements will be collected from the five (5) onsite monitoring wells to determine groundwater flow direction and gradient. Collected groundwater samples will be analyzed for TPHg, BTXE, five (5) fuel-oxygenates, TPHd, and TPHmo. Laboratory analysis for TPHd and TPHmo will be subject to silica gel clean-up, with the objective of eliminating

any natural occurring hydrocarbons. If the silica gel clean-up indicates that the long chained hydrocarbons are natural occurring, the continuation of TPHd and TPHmo analysis will be evaluated, particularly in well MW-4.

- HCDEH letter of September 21, 2005, concurred with SounPacific's scope of work, presented in the September 12, 2005 Subsurface Investigation Work Plan, to install additional offsite borings and monitoring wells for lateral and vertical delineation of groundwater contamination, install a well to replace destroyed well MW-5, prepare a report of findings and corrective action plan incorporating the findings from the proposed work, and continue quarterly groundwater sampling and monitoring. The fieldwork to implement the work plan is scheduled for January 2006. We are waiting for a response for encroachment on Capt Zacks Crab Shack property.

CERTIFICATION

This report was prepared under the direct supervision of a California registered geologist at SounPacific. All information provided in this report including statements, conclusions and recommendations are based solely on field observations and analyses performed by a state-certified laboratory. SounPacific is not responsible for laboratory errors.

SounPacific promises to perform all its work in a manner that is used by members in similar professions working in the same geographic area. SounPacific will do whatever is reasonable to ensure that data collection is accurate. Please note however, that rain, buried utilities, and other factors can influence groundwater depths, directions and other factors beyond what SounPacific could reasonably determine.

SounPacific

Prepared by:

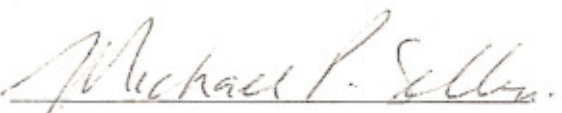


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ATTACHMENTS

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Table 1
Water Levels
 McKinleyville 76
 2698 Central Avenue
 McKinleyville, California 95519

Sample Location	Date	Depth to Bottom/ Feet BToC	Survey Height/ Feet AMSL	Depth to Water/ Feet BToC	Adjusted Elevation/ Feet AMSL
MW-1	6/25/2002	12.52	114.23	5.39	108.84
	7/25/2002	12.51	114.23	6.21	108.02
	8/14/2002	12.51	114.23	6.56	107.67
	9/16/2002	12.49	114.23	6.92	107.31
	10/21/2002	12.53	114.23	7.26	106.97
	11/21/2002	11.26	114.23	6.54	107.69
	12/21/2002	12.48	114.23	2.01	112.22
	1/22/2003	11.54	114.23	2.88	111.35
	2/26/2003	12.51	114.23	2.90	111.33
	3/28/2003	12.51	114.23	2.28	111.95
	4/28/2003	12.51	114.23	1.70	112.53
	5/28/2003	12.51	114.23	3.99	110.24
	6/27/2003	12.63	114.23	5.10	109.13
	9/25/2003	12.63	114.23	6.59	107.64
	12/29/2003	12.63	114.23	1.22	113.01
	3/30/2004	12.63	114.23	2.80	111.43
	6/28/2004	12.60	114.23	5.68	108.55
	9/30/2004	12.60	114.23	7.06	107.17
	12/20/2004	12.55	114.23	3.41	110.82
	4/5/2005	12.55	114.23	2.23	112.00
	6/22/2005	12.51	114.23	2.90	111.33
	9/30/2005	12.51	114.23	6.21	108.02
MW-2	6/25/2002	13.41	113.81	4.75	109.06
	7/25/2002	13.43	113.81	5.62	108.19
	8/14/2002	13.42	113.81	6.02	107.79
	9/16/2002	13.42	113.81	6.38	107.43
	10/21/2002	13.39	113.81	6.71	107.10
	11/21/2002	12.54	113.81	6.08	107.73
	12/21/2002	13.49	113.81	1.42	112.39
	1/22/2003	12.71	113.81	2.50	111.31
	2/26/2003	13.24	113.81	2.35	111.46
	3/28/2003	13.24	113.81	1.76	112.05
	4/28/2003	13.24	113.81	1.27	112.54
	5/28/2003	13.24	113.81	3.44	110.37
	6/27/2003	13.57	113.81	4.50	109.31
	9/25/2003	13.57	113.81	6.02	107.79
	12/29/2003	NT	113.81	NT	NT
	3/30/2004	13.57	113.81	2.09	111.72
	6/28/2004	13.37	113.81	5.06	108.75
	9/30/2004	13.20	113.81	6.49	107.32
	12/20/2004	13.15	113.81	2.61	111.20
	4/5/2005	12.97	113.81	1.64	112.17
	6/22/2005	13.05	113.81	2.25	111.56
	9/30/2005	12.82	113.81	5.57	108.24

Table 1 (cont.)
Water Levels
 McKinleyville 76
 2698 Central Avenue
 McKinleyville, California 95519

Sample Location	Date	Depth to Bottom/ Feet BToC	Survey Height/ Feet AMSL	Depth to Water/ Feet BToC	Adjusted Elevation/ Feet AMSL
MW-3	6/25/2002	11.28	114.78	5.81	108.97
	7/25/2002	13.22	114.78	7.64	107.14
	8/14/2002	13.24	114.78	7.48	107.30
	9/16/2002	13.26	114.78	7.39	107.39
	10/21/2002	11.24	114.78	7.76	107.02
	11/21/2002	13.31	114.78	5.45	109.33
	12/21/2002	11.18	114.78	2.33	112.45
	1/22/2003	13.52	114.78	1.95	112.83
	2/26/2003	11.31	114.78	3.27	111.51
	3/28/2003	11.31	114.78	2.59	112.19
	4/28/2003	11.31	114.78	2.05	112.73
	5/28/2003	11.31	114.78	4.42	110.36
	6/27/2003	11.33	114.78	5.51	109.27
	9/25/2003	11.33	114.78	7.03	107.75
	12/29/2003	11.33	114.78	1.50	113.28
	3/30/2004	11.33	114.78	3.18	111.60
	6/28/2004	11.30	114.78	6.09	108.69
	9/30/2004	11.25	114.78	7.55	107.23
	12/20/2004	11.26	114.78	3.56	111.22
	4/5/2005	11.21	114.78	2.54	112.24
	6/22/2005	11.21	114.78	3.22	111.56
	9/30/2005	11.20	114.78	6.61	108.17
MW-4	6/25/2002	12.34	115.18	6.31	108.87
	7/25/2002	12.32	115.18	7.10	108.08
	8/14/2002	12.32	115.18	7.52	107.66
	9/16/2002	12.31	115.18	7.85	107.33
	10/21/2002	12.31	115.18	8.21	106.97
	11/21/2002	12.32	115.18	7.05	108.13
	12/21/2002	12.22	115.18	2.69	112.49
	1/22/2003	12.57	115.18	3.27	111.91
	2/26/2003	12.29	115.18	3.71	111.47
	3/28/2003	12.29	115.18	3.02	112.16
	4/28/2003	12.29	115.18	2.41	112.77
	5/28/2003	12.29	115.18	4.88	110.30
	6/27/2003	12.38	115.18	5.99	109.19
	9/25/2003	12.38	115.18	7.50	107.68
	12/29/2003	12.38	115.18	1.78	113.40
	3/30/2004	12.38	115.18	3.60	111.58
	6/28/2004	12.33	115.18	6.59	108.59
	9/30/2004	12.25	115.18	8.00	107.18
	12/20/2004	12.23	115.18	4.24	110.94
	4/5/2005	12.20	115.18	2.95	112.23
	6/22/2005	12.20	115.18	3.70	111.48
	9/30/2005	12.21	115.18	7.11	108.07

Table 1 (cont.)
Water Levels
 McKinleyville 76
 2698 Central Avenue
 McKinleyville, California 95519

Sample Location	Date	Depth to Bottom/ Feet BToC	Survey Height/ Feet AMSL	Depth to Water/ Feet BToC	Adjusted Elevation/ Feet AMSL
MW-5	6/25/2002	12.42	114.47	5.48	108.99
	7/25/2002	12.39	114.47	6.35	108.12
	8/14/2002	12.39	114.47	7.12	107.35
	9/16/2002	12.40	114.47	7.12	107.35
	10/21/2002	12.41	114.47	7.49	106.98
	11/21/2002	12.43	114.47	6.36	108.11
	12/21/2002	12.36	114.47	2.11	112.36
	1/22/2003	12.41	114.47	2.59	111.88
	2/26/2003	12.45	114.47	3.00	111.47
	3/28/2003	12.45	114.47	2.36	112.11
	4/28/2003	12.45	114.47	1.84	112.63
	5/28/2003	12.45	114.47	4.11	110.36
	6/27/2003	12.57	114.47	5.21	109.26
	9/25/2003	12.57	114.47	6.71	107.76
MW-6	6/25/2002	12.31	114.70	5.86	108.84
	7/25/2002	12.26	114.70	6.65	108.05
	8/14/2002	12.27	114.70	6.97	107.73
	9/16/2002	12.27	114.70	7.40	107.30
	10/21/2002	12.26	114.70	7.74	106.96
	11/21/2002	12.23	114.70	6.58	108.12
	12/21/2002	12.16	114.70	2.39	112.31
	1/22/2003	12.44	114.70	2.87	111.83
	2/26/2003	12.21	114.70	3.29	111.41
	3/28/2003	12.21	114.70	2.68	112.02
	4/28/2003	12.21	114.70	2.07	112.63
	5/28/2003	12.21	114.70	4.45	110.25
	6/27/2003	12.36	114.70	5.56	109.14
	9/25/2003	12.36	114.70	7.05	107.65
	12/29/2003	12.36	114.70	1.54	113.16
	3/30/2004	12.36	114.70	3.22	111.48
	6/28/2004	12.27	114.70	6.13	108.57
	9/30/2004	12.23	114.70	7.54	107.16
	12/20/2004	12.21	114.70	3.86	110.84
	4/5/2005	12.19	114.70	2.62	112.08
	6/22/2005	12.20	114.70	3.33	111.37
	9/30/2005	12.22	114.70	6.67	108.03

Notes:

AMSL: Above mean sea level

BtoC: Below top of casing

Table 2
Quarterly Groundwater Analytical Results
McKinleyville 76
2698 Central Avenue
McKinleyville, California 95519

Sample Location	Sample Event	Annual Quarter	Sample Date	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Xylenes (ppb)	Ethylbenzene (ppb)	MTBE (ppb)	DIPE (ppb)	TAME (ppb)	ETBE (ppb)	TBA (ppb)	TPHd (ppb)	TPHmo (ppb)
MW-1	Well Installation	Second Quarter	6/25/2002	23,000	230	ND < 0.3	1.4	0.7	45,400	ND < 0.5	58	ND < 0.5	ND < 100	676	600
	First Quarterly	Third Quarter	9/16/2002	30,600	89.4	ND < 0.3	1.3	1.3	130,000	ND < 0.5	43.4	ND < 0.5	ND < 100	722	ND < 50
	Second Quarterly	Fourth Quarter	12/21/2002	ND < 50	ND < 50	ND < 50	ND < 100	ND < 50	7,600	ND < 50	ND < 50	ND < 50	ND < 500	ND < 50	ND < 500
	Third Quarterly	First Quarter	3/28/2003	4,200	1,200	ND < 50	ND < 100	ND < 50	33,000	ND < 50	ND < 50	ND < 50	ND < 500	440	ND < 500
	Fourth Quarterly	Second Quarter	6/27/2003	37,000	4,000	ND < 500	ND < 1,000	ND < 500	81,000	ND < 500	ND < 500	ND < 500	ND < 5,000	120	ND < 500
	Fifth Quarterly	Third Quarter	9/25/2003	ND < 40,000	23,000	ND < 500	ND < 1,000	ND < 500	72,000	ND < 500	ND < 500	ND < 500	ND < 5,000	900	ND < 500
	Sixth Quarterly	Fourth Quarter	12/29/2003	2,800	ND < 500	ND < 500	ND < 1,000	ND < 500	31,000	ND < 500	ND < 500	ND < 500	ND < 5,000	120	ND < 500
	Seventh Quarterly	First Quarter	3/30/2004	29,000	ND < 50	ND < 50	ND < 100	ND < 50	65,000	ND < 50	150	ND < 50	23,000	750	ND < 500
	Eighth Quarterly	Second Quarter	6/28/2004	44,000	2,100	ND < 50	ND < 100	ND < 50	100,000	ND < 50	130	ND < 50	ND < 500	870	ND < 500
	Ninth Quarterly	Third Quarter	9/30/2004	24,000	670	ND < 50	ND < 150	ND < 50	50,000	ND < 50	61	ND < 50	ND < 500	370	ND < 500
	Tenth Quarterly	Fourth Quarter	12/20/2004	ND < 2,000	ND < 20.0	ND < 20.0	ND < 40.0	ND < 20.0	2,080	ND < 20.0	ND < 200	ND < 200	ND < 2,000	103	122
	Eleventh Quarterly	First Quarter	4/5/2005	6,810	ND < 12.5	ND < 12.5	ND < 25.0	ND < 12.5	8,110	ND < 12.5	31.8	ND < 12.5	ND < 1,250	74	106
	Twelfth Quarterly	Second Quarter	6/22/2005	11,000	ND < 50	ND < 50	ND < 100	ND < 50	15,700	ND < 50	ND < 50	ND < 50	ND < 5,000	159	189
	Thirteenth Quarterly	Third Quarter	9/30/2005	21,200	ND < 50.0	ND < 50.0	ND < 100	ND < 50.0	24,000	ND < 50.0	79.0	ND < 50.0	ND < 5,000	114	70
MW-2	Well Installation	Second Quarter	6/25/2002	4,650	255	108	1,010	289	108	ND < 0.5	ND < 0.5	ND < 0.5	ND < 100	883	596
	First Quarterly	Third Quarter	9/16/2002	886	91.4	23.5	162	15.4	17.1	ND < 0.5	ND < 0.5	ND < 0.5	ND < 100	382	ND < 50
	Second Quarterly	Fourth Quarter	12/21/2002	220	12	3.6	11.3	0.6	ND < 0.5	ND < 50	ND < 0.5	ND < 0.5	ND < 5.0	85	ND < 500
	Third Quarterly	First Quarter	3/28/2003	92	12	1.1	1.2	ND < 0.5	4.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	Fourth Quarterly	Second Quarter	6/27/2003	1,700	190	36	189.7	100	16	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	330	ND < 500
	Fifth Quarterly	Third Quarter	9/25/2003	850	46	ND < 5.0	12	ND < 5.0	10	ND < 5.0	ND < 5.0	ND < 5.0	ND < 50	320	ND < 500
	Sixth Quarterly	Fourth Quarter	12/29/2003	----	----	----	----	----	----	----	----	----	----	----	----
	Seventh Quarterly	First Quarter	3/30/2004	140	14	0.5	0.8	ND < 0.5	12	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	110	ND < 500
	Eighth Quarterly	Second Quarter	6/28/2004	2,900	100	22	252	52	71	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	750	ND < 500
	Ninth Quarterly	Third Quarter	9/30/2004	790	29	ND < 5.0	25	ND < 5.0	26	ND < 5	ND < 5	ND < 5	ND < 50	170	ND < 500
	Tenth Quarterly	Fourth Quarter	12/20/2004	2,990	91.4	89.1	394	178	615	ND < 4.0	ND < 40.0	ND < 40.0	ND < 400	642	ND < 50
	Eleventh Quarterly	First Quarter	4/5/2005	337	7.7	ND < 0.5	ND < 1.0	ND < 0.5	27.6	ND < 0.5	1.2	ND < 0.5	ND < 50	ND < 50	55
	Twelfth Quarterly	Second Quarter	6/22/2005	518	32.8	0.8	1.7	ND < 0.5	129	ND < 0.5	5.3	ND < 0.5	ND < 50	85	ND < 50
	Thirteenth Quarterly	Third Quarter	9/30/2005	1,020	39.0	3.3	22.4	7.6	117	ND < 0.5	5.3	ND < 0.5	ND < 50.0	333	ND < 50

Table 2 (cont.)
Quarterly Groundwater Analytical Results
 McKinleyville 76
 2698 Central Avenue
 McKinleyville, California 95519

Sample Location	Sample Event	Annual Quarter	Sample Date	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Xylenes (ppb)	Ethylbenzene (ppb)	MTBE (ppb)	DIPE (ppb)	TAME (ppb)	ETBE (ppb)	TBA (ppb)	TPHd (ppb)	TPHmo (ppb)
MW-3	Well Installation	Second Quarter	6/25/2002	11,600	1,530	84.6	126	520	7,320	ND < 0.5	720	ND < 0.5	ND < 100	2,420	597
	First Quarterly	Third Quarter	9/16/2002	9,210	1,140	93.4	77	405	5,160	ND < 0.5	578	ND < 0.5	ND < 100	3500	ND < 50
	Second Quarterly	Fourth Quarter	12/21/2002	24,000	1,200	180	1,337	960	12,000	ND < 50	750	ND < 50	ND < 500	1300	ND < 500
	Third Quarterly	First Quarter	3/28/2003	7,800	860	ND < 50	ND < 100	88	6,100	ND < 50	410	ND < 50	ND < 500	4,000	ND < 500
	Fourth Quarterly	Second Quarter	6/27/2003	12,000	750	ND < 50	ND < 100	190	3,100	ND < 50	190	ND < 50	ND < 500	5,100	ND < 500
	Fifth Quarterly	Third Quarter	9/25/2003	17,000	1,200	79	54	330	2,100	ND < 50	280	ND < 50	ND < 500	7,200	ND < 500
	Sixth Quarterly	Fourth Quarter	12/29/2003	17,000	1,700	120	170	1,200	6,000	ND < 50	540	ND < 50	2,700	ND < 50	ND < 500
	Seventh Quarterly	First Quarter	3/30/2004	15,000	810	43	34	300	1,600	ND < 5.0	200	ND < 5.0	1,500	7,300	ND < 500
	Eighth Quarterly	Second Quarter	6/28/2004	14,000	720	72	64	370	600	ND < 50	90	ND < 50	ND < 500	7,000	ND < 500
	Ninth Quarterly	Third Quarter	9/30/2004	9,300	660	62	37	190	790	ND < 0.5	69	ND < 0.5	600	3,000	ND < 500
	Tenth Quarterly	Fourth Quarter	12/20/2004	7,980	528	64.8	82.8	628	1,280	ND < 10.0	124	ND < 100	ND < 1,000	5,910	250
	Eleventh Quarterly	First Quarter	4/5/2005	8,190	347	31.8	21.4	201	1,440	ND < 10.0	116	ND < 10	ND < 1,000	5,860	ND < 150
	Twelfth Quarterly	Second Quarter	6/22/2005	4,800	280	25.1	15.6	142	489	ND < 2.5	48.7	ND < 2.5	301	5,700	336
	Thirteenth Quarterly	Third Quarter	9/30/2005	6,910	279	46.8	35.9	244	108	ND < 2.5	15.6	ND < 2.5	ND < 250	3,050	147
MW-4	Well Installation	Second Quarter	6/25/2002	ND < 50	ND < 0.3	ND < 0.3	ND < 0.6	ND < 0.3	3.9	ND < 0.5	5.6	ND < 0.5	ND < 100	199	ND < 50
	First Quarterly	Third Quarter	9/16/2002	ND < 50	ND < 0.3	ND < 0.3	ND < 0.6	ND < 0.3	ND < 2	ND < 0.5	ND < 0.5	ND < 0.5	ND < 100	ND < 50	ND < 50
	Second Quarterly	Fourth Quarter	12/21/2002	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	4.8	ND < 50	3.8	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	Third Quarterly	First Quarter	3/28/2003	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	2.8	ND < 0.5	3.9	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	Fourth Quarterly	Second Quarter	6/27/2003	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	0.7	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	Fifth Quarterly	Third Quarter	9/25/2003	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	Sixth Quarterly	Fourth Quarter	12/29/2003	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	Seventh Quarterly	First Quarter	3/30/2004	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	97	ND < 500
	Eighth Quarterly	Second Quarter	6/28/2004	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	Ninth Quarterly	Third Quarter	9/30/2004	ND < 50	ND < 0.5	ND < 0.5	ND < 1.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	67	ND < 500
	Tenth Quarterly	Fourth Quarter	12/20/2004	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	ND < 0.5	ND < 5.0	ND < 5.0	ND < 50.0	ND < 50	52
	Eleventh Quarterly	First Quarter	4/5/2005	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50.0	ND < 50	86
	Twelfth Quarterly	Second Quarter	6/22/2005	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50.0	ND < 50	85
	Thirteenth Quarterly	Third Quarter	9/30/2005	ND < 50.0	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50.0	ND < 50	53

Table 2 (cont.)
Quarterly Groundwater Analytical Results
 McKinleyville 76
 2698 Central Avenue
 McKinleyville, California 95519

Sample Location	Sample Event	Annual Quarter	Sample Date	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Xylenes (ppb)	Ethylbenzene (ppb)	MTBE (ppb)	DIPE (ppb)	TAME (ppb)	ETBE (ppb)	TBA (ppb)	TPHd (ppb)	TPHmo (ppb)
MW-5	Well Installation	Second Quarter	6/25/2002	168,000	21,300	22,500	13,900	2,580	571,000	ND < 0.5	689	ND < 0.5	ND < 100	2,580	ND < 50
	First Quarterly	Third Quarter	9/16/2002	246,000	36,900	37,000	14,100	4,500	540,000	ND < 0.5	2,530	ND < 0.5	----	10,200	ND < 50
	Second Quarterly	Fourth Quarter	12/21/2002	11,000	120	110	650	120	1,100	ND < 50	ND < 50	ND < 50	ND < 500	930	ND < 500
	Third Quarterly	First Quarter	3/28/2003	43,000	2,900	2,600	2,500	580	78,000	ND < 50	180	ND < 50	ND < 500	4,600	ND < 500
	Fourth Quarterly	Second Quarter	6/27/2003	230,000	25,000	27,000	13,300	2,700	280,000	ND < 500	1,500	ND < 500	ND < 5,000	9,600	ND < 500
	Fifth Quarterly	Third Quarter	9/25/2003	210,000	24,000	24,000	11,400	2,400	320,000	ND < 500	2,500	ND < 500	ND < 5,000	ND < 50	ND < 500
MW-6	Well Installation	Second Quarter	6/25/2002	11,900	2,370	0.8	5.4	0.8	22,600	ND < 0.5	274	ND < 0.5	ND < 100	295	ND < 50
	First Quarterly	Third Quarter	9/16/2002	44,700	11,500	1,470	357	802	61,600	ND < 0.5	715	ND < 0.5	ND < 100	729	ND < 50
	Second Quarterly	Fourth Quarter	12/21/2002	17,000	5,500	ND < 500	ND < 1,000	ND < 500	67,000	ND < 500	ND < 500	ND < 500	ND < 5,000	440	ND < 500
	Third Quarterly	First Quarter	3/28/2003	270	ND < 500	ND < 500	ND < 1,000	ND < 500	1,200	ND < 500	ND < 500	ND < 500	ND < 5,000	----	ND < 500
	Fourth Quarterly	Second Quarter	6/27/2003	ND < 50	5.4	0.6	ND < 1	ND < 0.5	80	ND < 0.5	11	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	Fifth Quarterly	Third Quarter	9/25/2003	11,000	1,500	ND < 0.5	2.4	ND < 0.5	17,000	ND < 50	280	ND < 50	1,200	73	ND < 500
	Sixth Quarterly	Fourth Quarter	12/29/2003	5,100	1,200	ND < 500	ND < 1,000	ND < 500	29,000	ND < 500	ND < 500	ND < 500	ND < 5,000	ND < 50	ND < 500
	Seventh Quarterly	First Quarter	3/30/2004	1,600	100	ND < 5.0	ND < 10.0	ND < 5.0	1,500	ND < 5.0	36	ND < 5.0	440	120	ND < 500
	Eighth Quarterly	Second Quarter	6/28/2004	5,700	460	ND < 50	ND < 100	ND < 50	6,000	ND < 50	230	ND < 50	ND < 500	82	ND < 500
	Ninth Quarterly	Third Quarter	9/30/2004	37,000	4,400	ND < 50	ND < 150	ND < 50	59,000	ND < 50	370	ND < 50	4,600	450	ND < 500
	Tenth Quarterly	Fourth Quarter	12/20/2004	50,500	4,210	ND < 400	ND < 800	ND < 400	58,100	ND < 400	ND < 4,000	ND < 4,000	ND < 40,000	488	114
	Eleventh Quarterly	First Quarter	4/5/2005	12,200	842	ND < 40	ND < 80	ND < 40	10,000	ND < 40	123	ND < 40	ND < 4,000	238	208
	Twelfth Quarterly	Second Quarter	6/22/2005	4,250	914	ND < 10	ND < 20	ND < 10	3,460	ND < 10	119	ND < 10	ND < 1,000	100	110
	Thirteenth Quarterly	Third Quarter	9/30/2005	6,340	884	ND < 25.0	ND < 50.0	ND < 25.0	7,410	ND < 25.0	224	ND < 25.0	ND < 2,500	194	56

Notes:

TPHg: Total petroleum hydrocarbons as gasoline.

MTBE: Methyl tertiary butyl ether

DIPE: Diisopropyl Ether

TAME: Tertiary amyl methyl ether

ETBE: Ethyl tertiary butyl ether

TBA: Tertiary butanol

TPHd: Total petroleum hydrocarbons as diesel

TPHmo: Total petroleum hydrocarbons as motor oil

ppb: parts per billion = µg/l = .001 mg/l = 0.001 ppm.

ND: Not detected at or below the method detection limit as shown.

No analytical results for methanol and ethanol were reported at or above the detection limits since the inception of the monitoring, therefore they have been omitted from this table to save space.

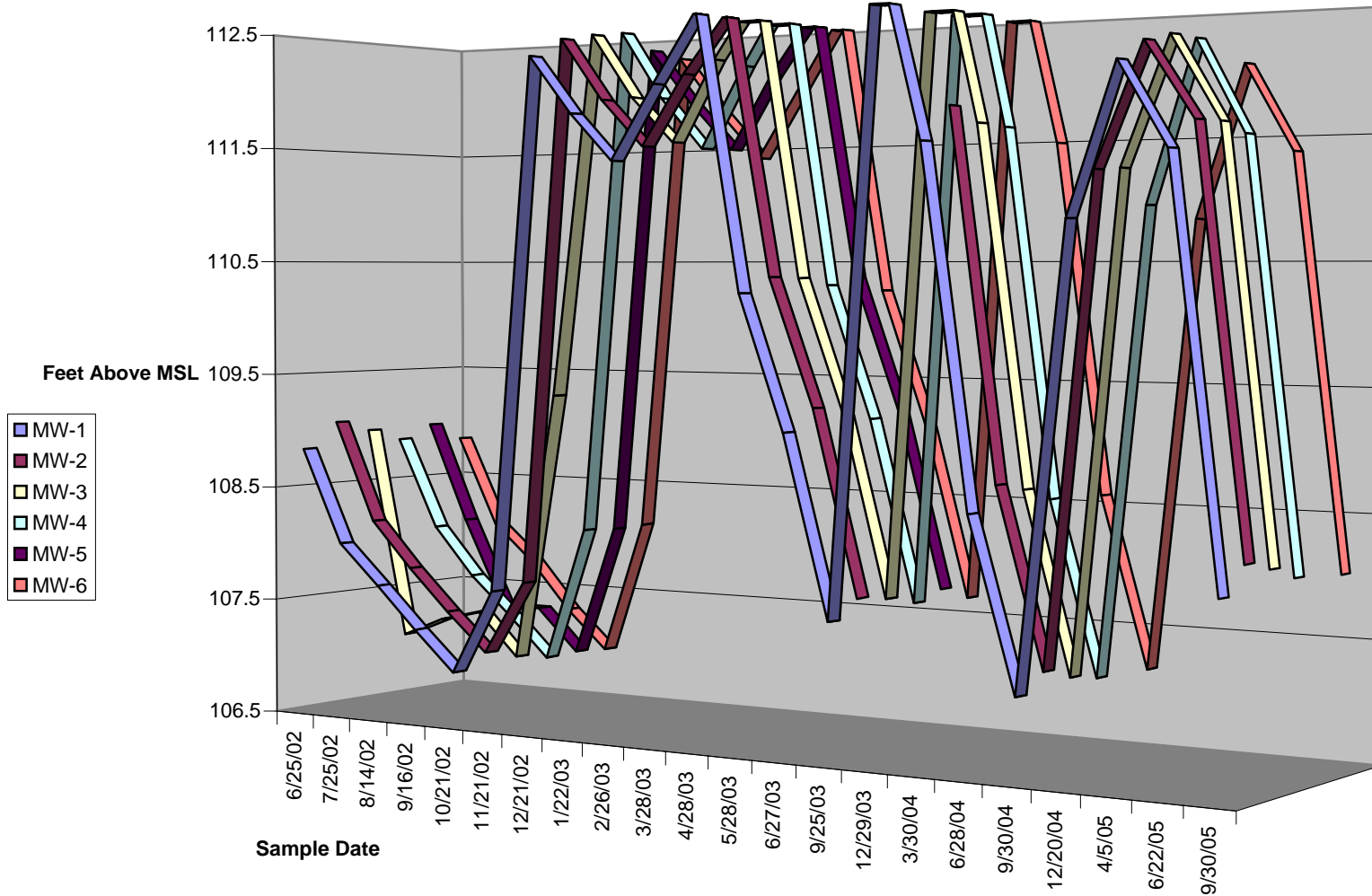
Chart 1

Hydrograph

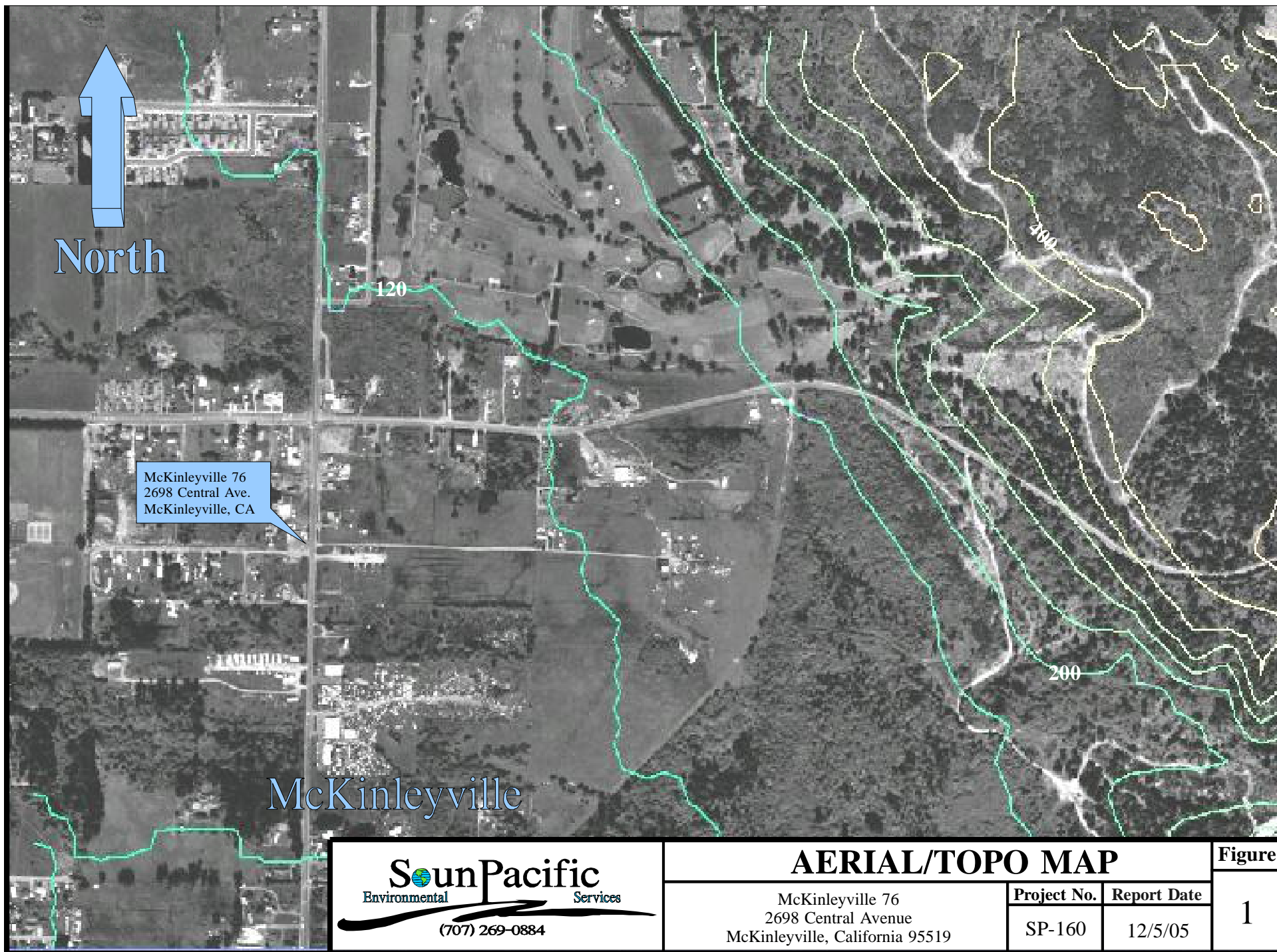
McKinleyville 76

2698 Central Avenue

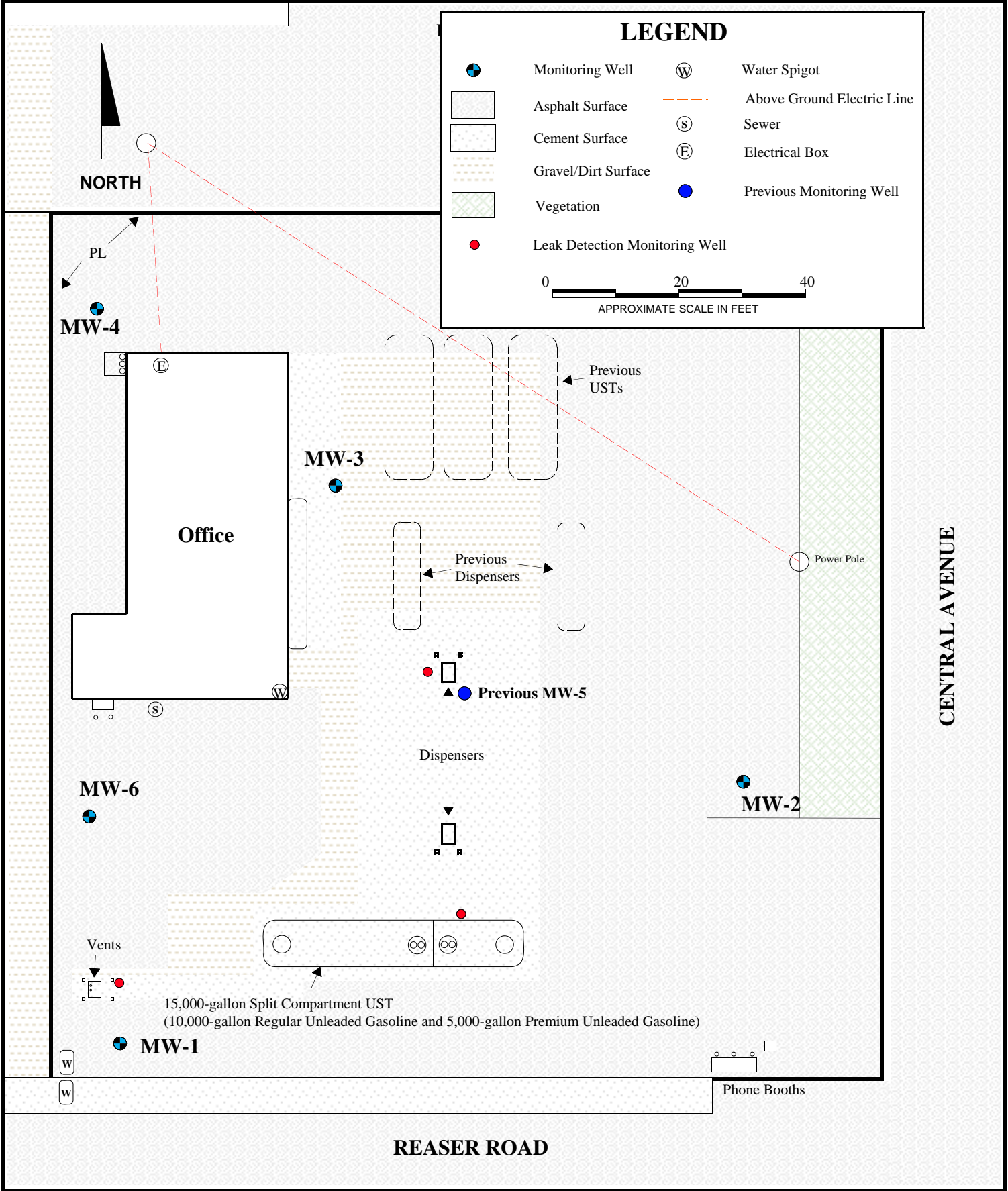
McKinleyville, California 95519



Figures



 <div>Soun Pacific Environmental Services (707) 269-0884</div>	AERIAL/TOPO MAP			Figure
	McKinleyville 76 2698 Central Avenue McKinleyville, California 95519	Project No.	Report Date	1
		SP-160	12/5/05	



SITE PLAN		
McKinleyville 76 2698 Central Avenue McKinleyville, California 95519	Project No.	Report Date
	SP-160	12/5/05

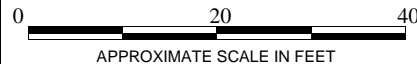
Figure
2

PARKING LOT

LEGEND



Monitoring Well



NORTH

MW-4

Casing Elevation: 115.18
Depth to Water: 7.11
Elevation above MSL: 108.07

MW-3

Casing Elevation: 114.78
Depth to Water: 6.61
Elevation above MSL: 108.17

MW-2

Casing Elevation: 113.81
Depth to Water: 5.57
Elevation above MSL: 108.24

MW-6

Casing Elevation: 114.70
Depth to Water: 6.67
Elevation above MSL: 108.03

MW-1

Casing Elevation: 114.23
Depth to Water: 6.21
Elevation above MSL: 108.02

GW Flow Direction: WSW
GW Gradient: 0.004 ft/ft

REASER ROAD

CENTRAL AVENUE

GROUNDWATER GRADIENT MAP SEPTEMBER 2005

Figure

McKinleyville 76
2698 Central Avenue
McKinleyville, California 95519

Project No.

Report Date

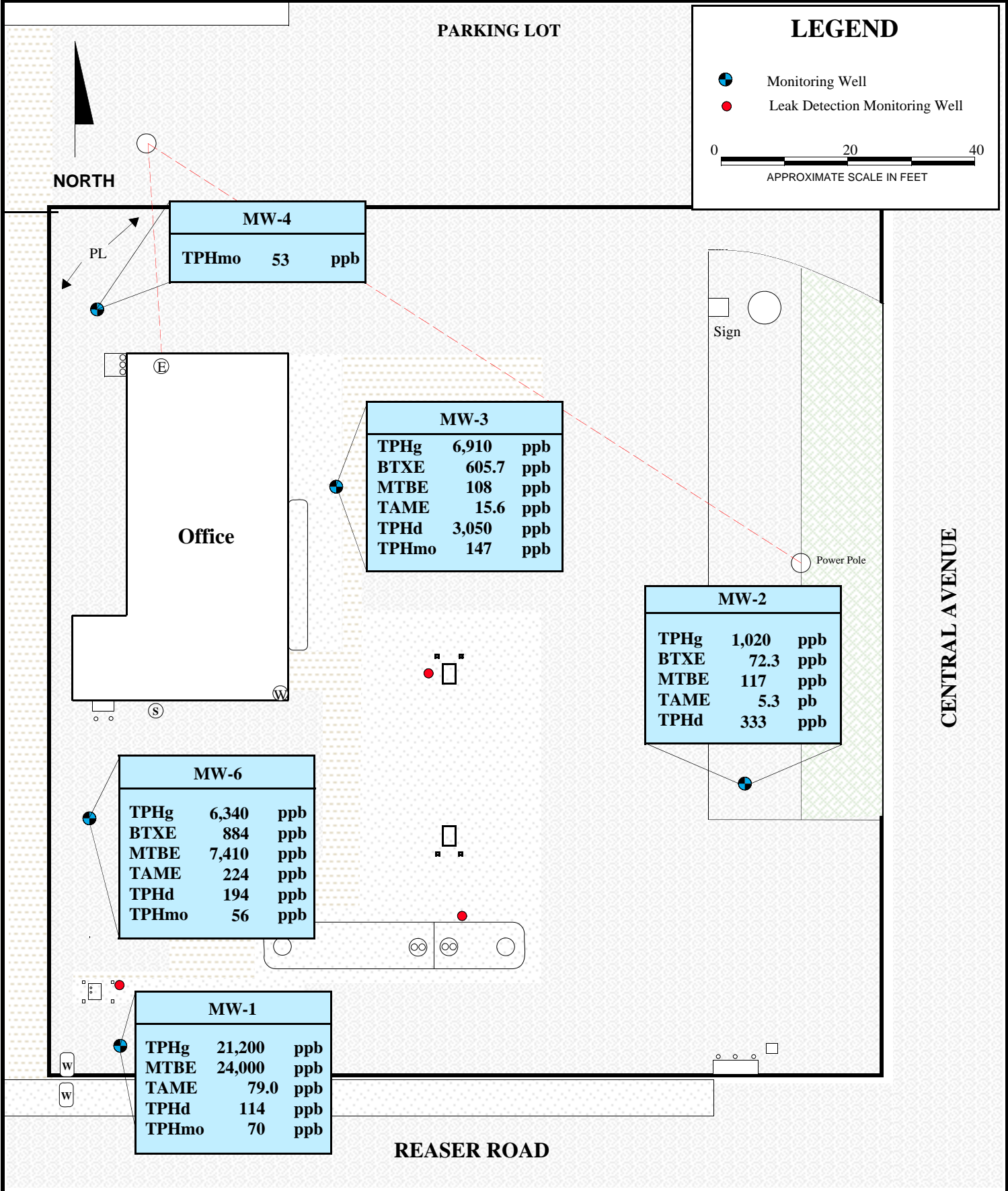
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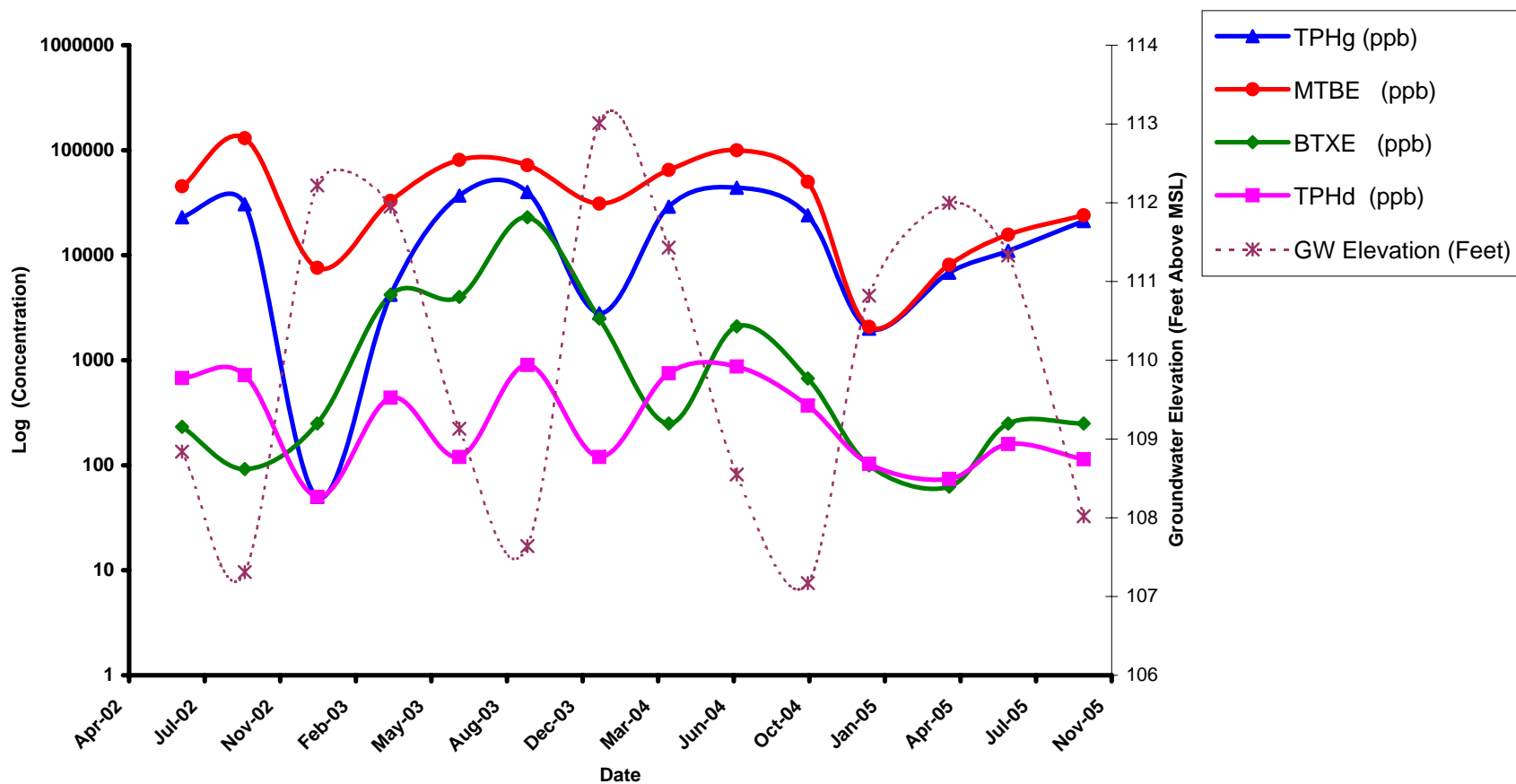
12/5/05

3

Environmental

Services





SounPacific
 Environmental Services
 (707) 269-0884

**MW-1 HYDROCARBON
 CONCENTRATIONS VS. TIME**

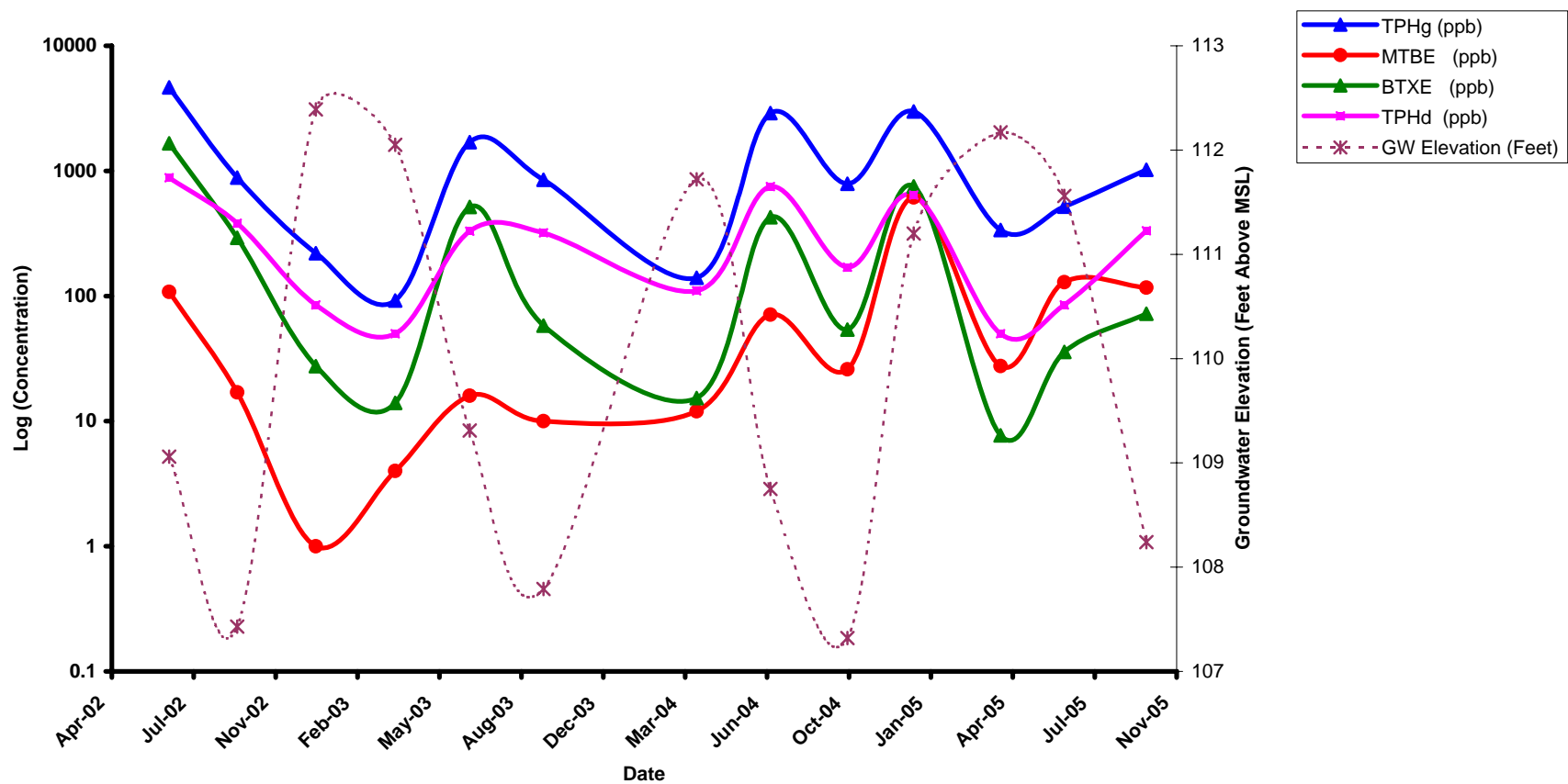
McKinleyville 76
 2698 Central Avenue
 McKinleyville, California 95519

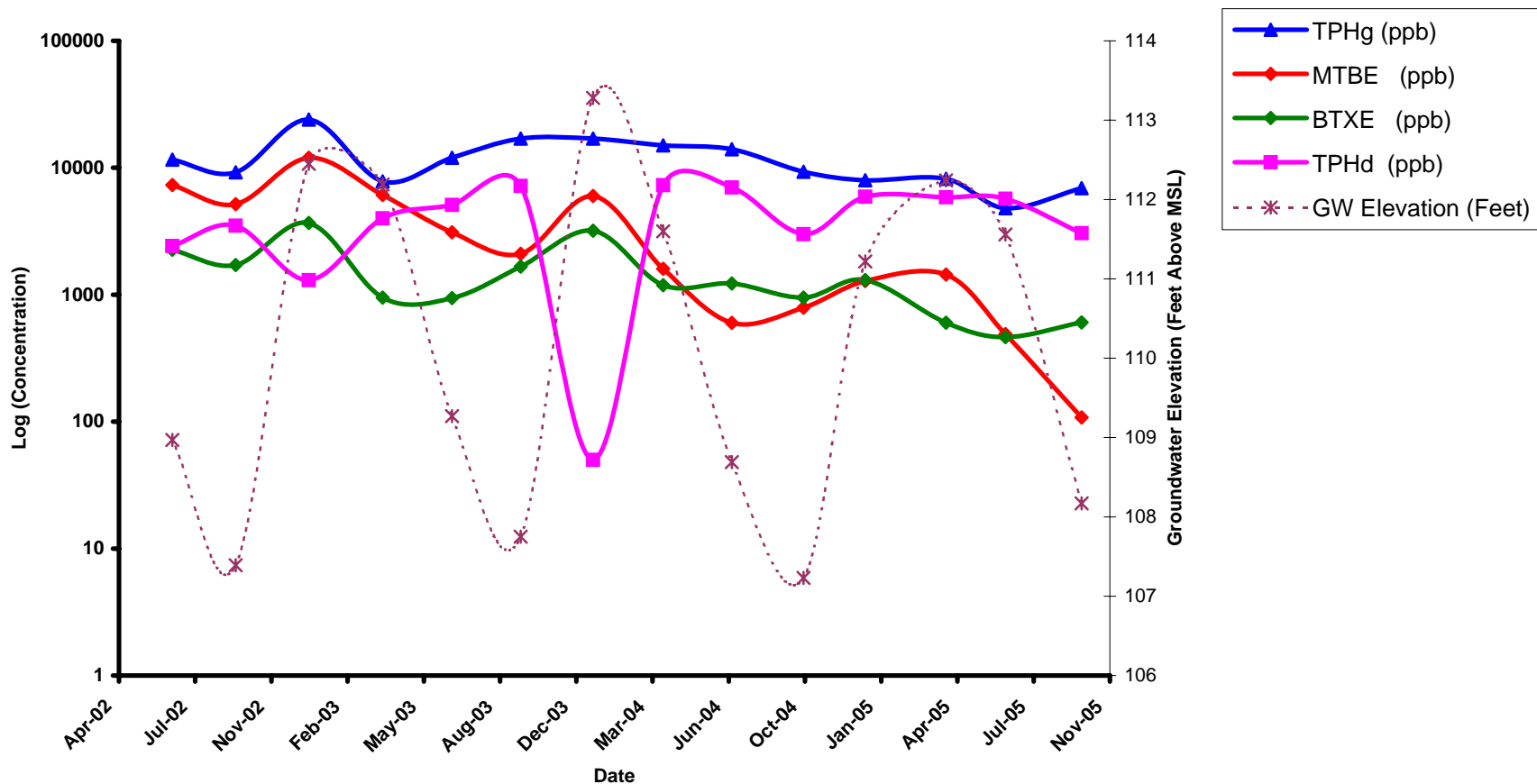
Project No.
 SP-160

Date
 12/5/2005

Figure

5





SounPacific
 Environmental Services
 (707) 269-0884

MW-3 HYDROCARBON CONCENTRATIONS VS. TIME

McKinleyville 76
 2698 Central Avenue
 McKinleyville, California 95519

Project No.

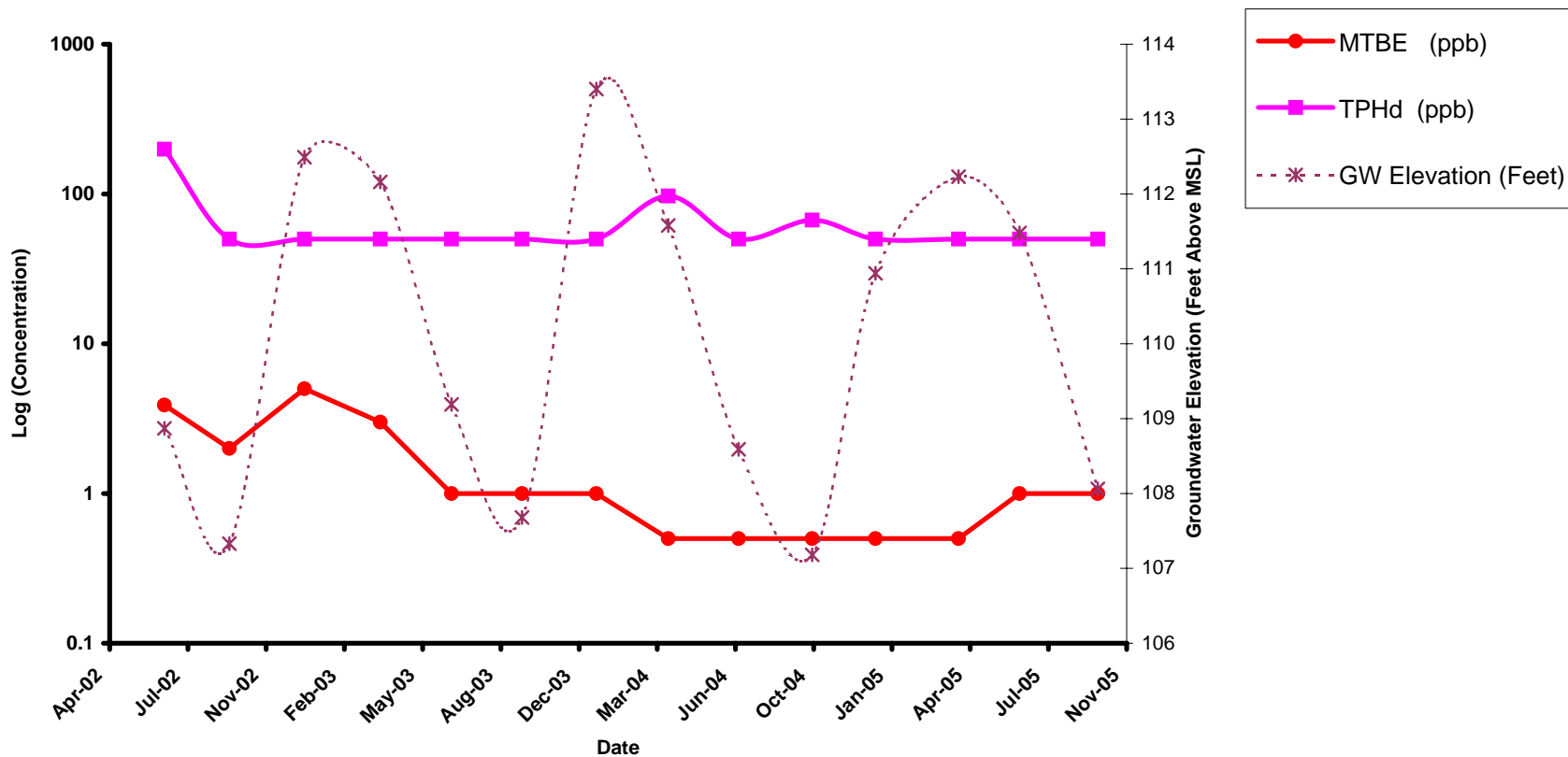
SP-160

Date

12/5/2005

Figure

7



**MW-4 HYDROCARBON
CONCENTRATIONS VS. TIME**

McKinleyville 76
2698 Central Avenue
McKinleyville, California 95519

Project No.

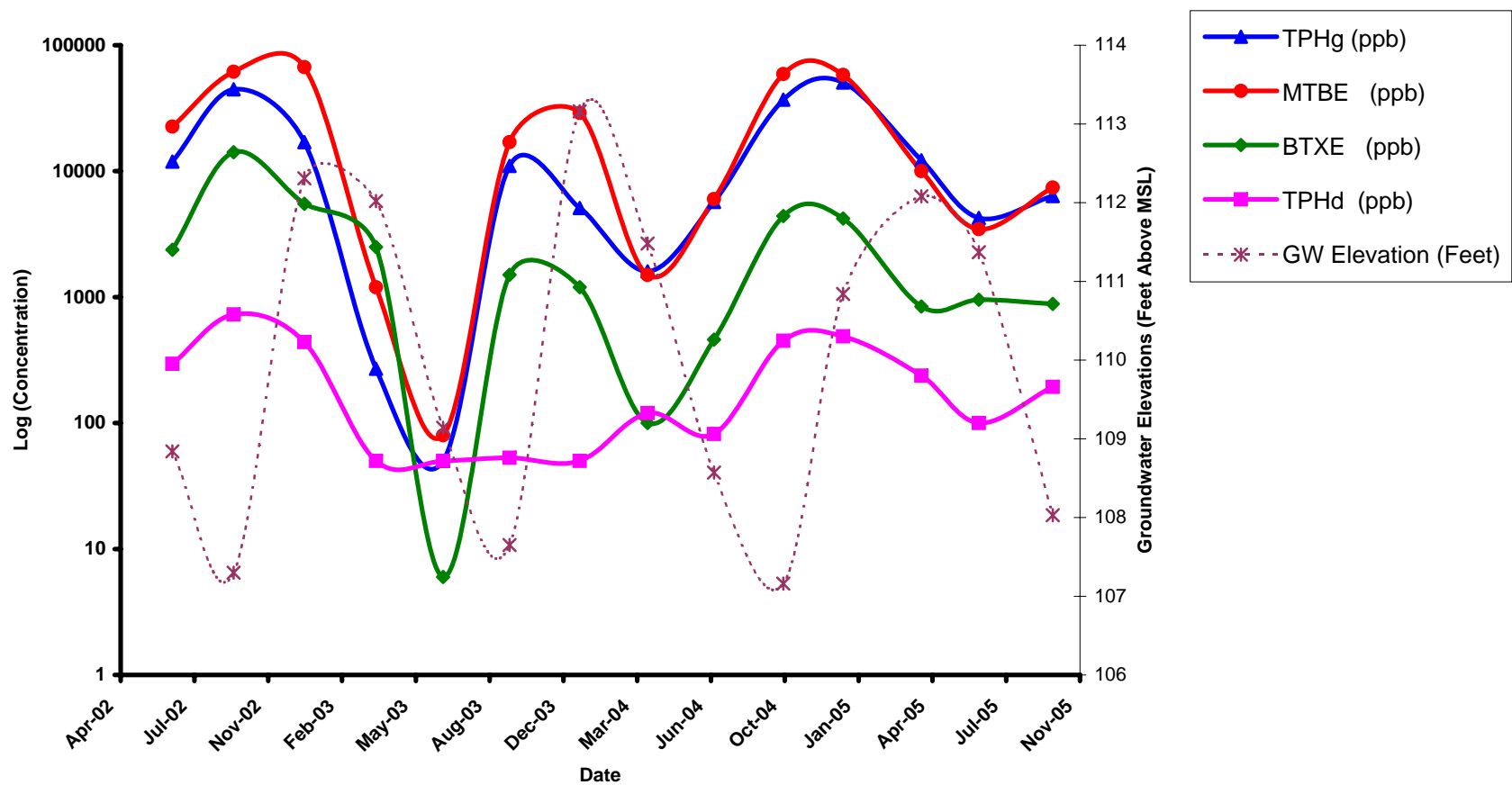
SP-160

Date

12/5/2005

Figure

8



**MW-6 HYDROCARBON
 CONCENTRATIONS VS. TIME**

McKinleyville 76
 2698 Central Avenue
 McKinleyville, California 95519

Project No.
 SP-160

Date
 12/5/2005

Figure

9

Appendices

Appendix A



www.basiclab.com

voice 530.243.7234 2218 Railroad Avenue
fax 530.243.7494 Redding, California 96001

October 17, 2005

Lab ID: 5100155

SOUNPACIFIC
SOUNPACIFIC
4612 GREENWOOD HEIGHTS DR
KNEELAND, CA 95549
RE: MCK76 2698 CENTRAL AVE SP-160

Dear SOUNPACIFIC,

Enclosed are the analysis results for Work Order number 5100155. All analysis were performed under strict adherence to our established Quality Assurance Plan. Any abnormalities are listed in the qualifier section of this report.

If you have any questions regarding these results, please feel free to contact us at any time. We appreciate the opportunity to service your environmental testing needs.

Sincerely,

For

Ricky D. Jensen
Laboratory Director

California ELAP Certification Number 1677



www.basiclab.com

voice 530.243.7234 2218 Railroad Avenue
fax 530.243.7494 Redding, California 96001

Report To: SOUNPACIFIC
4612 GREENWOOD HEIGHTS DR
KNEELAND, CA 95549
Attention: SOUNPACIFIC
Project: MCK76 2698 CENTRAL AVE SP-160

Lab No: 5100155
Reported: 10/17/05
Phone: 707-269-0884
P.O. #

Volatile Organic Compounds

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
MW-1 Water (5100155-01) Sampled:09/30/05 00:00 Received:10/05/05 10:53									
Gasoline	ug/l	21200	R-07		5000	EPA 8015/8260	10/06/05	10/06/05	B5J0121
Benzene	"	ND	R-07		50.0	"	"	"	"
Toluene	"	ND	R-07		50.0	"	"	"	"
Ethylbenzene	"	ND	R-07		50.0	"	"	"	"
Xylenes (total)	"	ND	R-07		100	"	"	"	"
Methyl tert-butyl ether	"	24000	R-07		1000	"	10/06/05	"	"
Di-isopropyl ether	"	ND	R-07		50.0	"	10/06/05	"	"
Tert-amyl methyl ether	"	79.0	R-07		50.0	"	"	"	"
Ethyl tert-butyl ether	"	ND	R-07		50.0	"	"	"	"
Tert-butyl alcohol	"	ND	R-07		5000	"	"	"	"
Surrogate: 4-Bromofluorobenzene		92.8 %		43-155		"	"	"	"
MW-2 Water (5100155-02) Sampled:09/30/05 00:00 Received:10/05/05 10:53									
Gasoline	ug/l	1020			50.0	EPA 8015/8260	10/06/05	10/06/05	B5J0121
Benzene	"	39.0			0.5	"	"	"	"
Toluene	"	3.3			0.5	"	"	"	"
Ethylbenzene	"	7.6			0.5	"	"	"	"
Xylenes (total)	"	22.4			1.0	"	"	"	"
Methyl tert-butyl ether	"	117	R-01		10.0	"	10/07/05	"	"
Di-isopropyl ether	"	ND			0.5	"	10/06/05	"	"
Tert-amyl methyl ether	"	5.3			0.5	"	"	"	"
Ethyl tert-butyl ether	"	ND			0.5	"	"	"	"
Tert-butyl alcohol	"	ND			50.0	"	"	"	"
Surrogate: 4-Bromofluorobenzene		92.4 %		43-155		"	"	"	"
MW-3 Water (5100155-03) Sampled:09/30/05 00:00 Received:10/05/05 10:53									
Gasoline	ug/l	6910	R-07		250	EPA 8015/8260	10/06/05	10/06/05	B5J0121
Benzene	"	279	R-07		2.5	"	"	"	"
Toluene	"	46.8	R-07		2.5	"	"	"	"
Ethylbenzene	"	244	R-07		2.5	"	"	"	"
Xylenes (total)	"	35.9	R-07		5.0	"	"	"	"
Methyl tert-butyl ether	"	108	R-07		5.0	"	"	"	"
Di-isopropyl ether	"	ND	R-07		2.5	"	"	"	"
Tert-amyl methyl ether	"	15.6	R-07		2.5	"	"	"	"
Ethyl tert-butyl ether	"	ND	R-07		2.5	"	"	"	"
Tert-butyl alcohol	"	ND	R-07		250	"	"	"	"
Surrogate: 4-Bromofluorobenzene		92.0 %		43-155		"	"	"	"
MW-4 Water (5100155-04) Sampled:09/30/05 00:00 Received:10/05/05 10:53									
Gasoline	ug/l	ND			50.0	EPA 8015/8260	10/06/05	10/06/05	B5J0121
Benzene	"	ND			0.5	"	"	"	"
Toluene	"	ND			0.5	"	"	"	"
Ethylbenzene	"	ND			0.5	"	"	"	"
Xylenes (total)	"	ND			1.0	"	"	"	"
Methyl tert-butyl ether	"	ND			1.0	"	"	"	"
Di-isopropyl ether	"	ND			0.5	"	"	"	"
Tert-amyl methyl ether	"	ND			0.5	"	"	"	"
Ethyl tert-butyl ether	"	ND			0.5	"	"	"	"
Tert-butyl alcohol	"	ND			50.0	"	"	"	"
Surrogate: 4-Bromofluorobenzene		90.0 %		43-155		"	"	"	"
MW-6 Water (5100155-05) Sampled:09/30/05 00:00 Received:10/05/05 10:53									
Gasoline	ug/l	6340	R-07		2500	EPA 8015/8260	10/06/05	10/06/05	B5J0121
Benzene	"	884	R-07		25.0	"	"	"	"
Toluene	"	ND	R-07		25.0	"	"	"	"

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voice 530.243.7234 2218 Railroad Avenue
fax 530.243.7494 Redding, California 96001

Report To: SOUNPACIFIC
4612 GREENWOOD HEIGHTS DR
KNEELAND, CA 95549

Attention: SOUNPACIFIC
Project: MCK76 2698 CENTRAL AVE SP-160

Lab No: 5100155
Reported: 10/17/05
Phone: 707-269-0884
P.O. #

Volatile Organic Compounds

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
MW-6 Water (5100155-05)	Sampled:09/30/05 00:00	Received:10/05/05 10:53							
Ethylbenzene	"	ND	R-07		25.0	"	"	10/06/05	"
Xylenes (total)	"	ND	R-07		50.0	"	"	"	"
Methyl tert-butyl ether	"	7410	R-07		1000	"	10/06/05	"	"
Di-isopropyl ether	"	ND	R-07		25.0	"	10/06/05	"	"
Tert-amyl methyl ether	"	224	R-07		25.0	"	"	"	"
Ethyl tert-butyl ether	"	ND	R-07		25.0	"	"	"	"
Tert-butyl alcohol	"	ND	R-07		2500	"	"	"	"
Surrogate: 4-Bromofluorobenzene		91.2 %			43-155	"	"	"	"


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Lab No: 5100155
Reported: 10/17/05
Phone: 707-269-0884
P.O. #

TPH Diesel & Motor Oil

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
MW-1 Water (5100155-01) Sampled:09/30/05 00:00 Received:10/05/05 10:53									
Diesel	ug/l	114	D-02		50	EPA 8015 MOD	10/06/05	10/05/05	B5J0076
Motor Oil	"	70	D-02		50	"	"	"	"
Surrogate: Octacosane		52.2 %		50-150		"	"	"	"
MW-2 Water (5100155-02) Sampled:09/30/05 00:00 Received:10/05/05 10:53									
Diesel	ug/l	333	D-08		50	EPA 8015 MOD	10/06/05	10/05/05	B5J0076
Motor Oil	"	ND			50	"	"	"	"
Surrogate: Octacosane		72.6 %		50-150		"	"	"	"
MW-3 Water (5100155-03) Sampled:09/30/05 00:00 Received:10/05/05 10:53									
Diesel	ug/l	3050	D-08		50	EPA 8015 MOD	10/06/05	10/05/05	B5J0076
Motor Oil	"	147	D-10		50	"	"	"	"
Surrogate: Octacosane		58.4 %		50-150		"	"	"	"
MW-4 Water (5100155-04) Sampled:09/30/05 00:00 Received:10/05/05 10:53									
Diesel	ug/l	ND			50	EPA 8015 MOD	10/06/05	10/05/05	B5J0076
Motor Oil	"	53			50	"	"	"	"
Surrogate: Octacosane		61.1 %		50-150		"	"	"	"
MW-6 Water (5100155-05) Sampled:09/30/05 00:00 Received:10/05/05 10:53									
Diesel	ug/l	194	D-08		50	EPA 8015 MOD	10/06/05	10/05/05	B5J0076
Motor Oil	"	56			50	"	"	"	"
Surrogate: Octacosane		61.1 %		50-150		"	"	"	"

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Report To: SOUNPACIFIC
4612 GREENWOOD HEIGHTS DR
KNEELAND, CA 95549
Attention: SOUNPACIFIC
Project: MCK76 2698 CENTRAL AVE SP-160

Lab No: 5100155
Reported: 10/17/05
Phone: 707-269-0884
P.O. #

Notes and Definitions

R-07 The sample was diluted due to the presence of high levels of target analytes resulting in elevated reporting limits.
R-01 The Reporting Limit and Detection Limit for this analyte have been raised due to necessary sample dilution.
QR-02 The RPD result for the MS/MSD exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
D-10 The heavy oil range organics present are due to hydrocarbons eluting primarily in the diesel range.
D-08 Results in the diesel organics range are primarily due to overlap from a gasoline range product.
D-02 Hydrocarbon pattern present in the requested fuel quantitation range but does not resemble the pattern of the requested fuel.
DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the detection limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference
< Less than reporting limit
≤ Less than or equal to reporting limit
> Greater than reporting limit
≥ Greater than or equal to reporting limit
MDL Method Detection Limit
RL/ML Minimum Level of Quantitation
MCL/AL Maximum Contaminant Level/Action Level
mg/kg Results reported as wet weight
TTLC Total Threshold Limit Concentration
STLC Soluble Threshold Limit Concentration
TCLP Toxicity Characteristic Leachate Procedure


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Appendix B



Standard Operating Procedures

Groundwater Level Measurements and Free Phase Hydrocarbon Measurements

All SounPacific staff and contractors shall adopt the following procedures any time that groundwater elevations are determined for the purposes of establishing groundwater gradient and direction, and prior to any sampling event.

Wells are to be tested for free phase hydrocarbons (free product) before the first development or sampling of any new well, and in any well that has historically contained free product.

Equipment Checklist

- ☐ Combination water level / free phase hydrocarbon indicator probe (probe)
- ☐ Gauging Data / Purge Calculations Sheet
- ☐ Pencil or Pen/sharpie
- ☐ Disposable Gloves
- ☐ Distilled Water and or know water source on site that is clean
- ☐ Alconox (powder) or Liquinox (liquid) non-phosphate cleaners—do not use soap!
- ☐ Buckets or Tubs for decontamination station
- ☐ Tools necessary to access wells
- ☐ Site Safety Plan
- ☐ This Standard Operating Procedure
- ☐ Notify Job site business that you will be arriving to conduct work.

Procedure

1. Review Site Safety Plan and utilize personal protection appropriate for the contaminants that may be encountered.
2. Access and open all monitoring wells to be measured. Allow wells to equilibrate for approximately 15 minutes before taking any measurements.

3. Decontaminate probe with Alconox or Liquinox solution, and rinse with distilled water.
4. Determine the diameter of the well to be measured and indicate this on the Gauging Data / Purge Calculations Sheet.
5. Words of caution: Please be careful with water level and product meters probes are not attached with high strength material so please make sure to avoid catching the end on anything in the well and make sure not to wind reel to the point that it could pull on the probe. ***If product is suspect in a well, go to step 6, if no product is suspected go to step 7 below.***
6. **When product is present or suspected:** use the product level meter. Clip the static charge clamp to the side of the well casing. Then lower probe into the well through the product/water interface about one foot if possible. Then slowly raise the probe back up through the product/water interface layer and record the level as the tone changes from solid to broken-record this level in the Gauging Data / Purge Calculations Sheet to the nearest 0.01 foot (DTP). Continue to raise the probe up through the product until the tone stops completely-record this level on the Gauging Data / Purge Calculations Sheet to the nearest 0.01 foot (DTW). Then go to step 8.
7. **When no product is present or suspected:** If no free product is present, record the depth of the water (to the nearest 0.01 foot) relative to the painted black mark on the top of the well casing. Leave the probe in the well just a hair above the water level to ensure the well as equilibrated. As the well rises, the tone will sound. Make sure no increase in water levels have occurred in over a ten-minute period. Water levels can lower as well as rise. Make sure you note when the level you keep lowering the probe to has remained stable for at least ten minutes. Once this has been accomplished, please record this level in the Gauging Data / Purge Calculations Sheet to the nearest 0.01 foot (DTW).
8. Turn off the probe, and use the probe to determine the depth to the bottom of the well relative to the top of the well casing. This is the depth to bottom measurement (DTB).
9. Decontaminate probe and tape by washing in an Alconox/Liquinox solution (***read directions on solution for ratio of water to cleanser***) and use the toothbrush provided to remove any foreign substance from the probe and tape. Then triple rinse probe and tape with clean water and then proceed to take measurements in the next well.
10. If sampling is to occur, proceed to implement SounPacific's Standard Operating Procedure for Monitoring Well Purging and Sampling. If no sampling is to be performed, close and secure all wells and caps.



Standard Operating Procedures

Monitoring Well Purging and Groundwater Sampling

All SounPacific employees and contractors shall adopt the following procedures any time that groundwater samples are to be taken from an existing groundwater monitoring well.

Prior to the implementation of these procedures, the groundwater level **MUST** be measured and the presence of free phase hydrocarbons determined in accordance with SounPacific's Standard Operating Procedures for Groundwater Level Measurements and Free Phase Hydrocarbon Measurements.

Equipment Checklist

- ☐ **Gauging Data / Purge Calculations Sheet used for water level determination**
- ☐ Chain of Custody Form
- ☐ pH/ Conductivity / Temperature meter
- ☐ Pencil or Pen
- ☐ Indelible Marker
- ☐ Calculator
- ☐ Disposable Gloves
- ☐ Distilled Water
- ☐ Alconox/liquinox liquid or powdered non-phosphate cleaner
- ☐ Buckets or Tubs for decontamination station
- ☐ Bottom-filling bailer or pumping device for purging
- ☐ Disposable bottom-filling bailer and emptying device for sampling
- ☐ String, twine or fishing line for bailers
- ☐ Sample containers appropriate for intended analytical method (check with lab)
- ☐ Sample labels
- ☐ Site Safety Plan
- ☐ Tools necessary to access wells
- ☐ Drum space on site adequate for sampling event

SounPacific Standard Operating Procedures for Groundwater Level Measurements and Free Phase Hydrocarbon Measurements, Page 2 of 3

Procedure

1. Review Site Safety Plan and utilize personal protection appropriate for the contaminants that may be encountered.
2. Measure groundwater levels and check for the presence of free product in accordance with the Standard Operating Procedures for Groundwater Level Measurements and Free Phase Hydrocarbon Measurements.

Purging

3. Calculate and record the volume of standing water in each well using the information provided on the Gauging Data / Purge Calculations sheet.
 $(DTB-DTW) \times \text{Conversion Factor} = \text{Casing Volume}.$
4. The purge volume shall be at least three times and no more than seven times the volume of standing water (the casing volume).
5. Purge the well by bailing or pumping water from the well into a calibrated receptacle, such as a five gallon bucket or tub with markings to indicate one gallon increments. Collect purgeate in a 55 gallon labeled drum and store on site. Drum labels should include the date, contents, site number, and SounPacific's name and telephone number.
6. Take measurements of pH, conductivity, temperature, and visual observations to verify the stabilization of these parameters. At least five measurements of these parameters should be made throughout the purging process. The parameters shall be considered stabilized if successive measurements vary by less than 0.25 pH units, 10% of conductivity in μS , and 1°C (or 1.8°F). Continue purging until at least three times the casing volume has been removed, and the measured parameters have stabilized as indicated above. Do not exceed seven casing volumes.
7. Take a final depth to groundwater measurement and calculate the casing volume of the recharged well. Ideally, the casing volume should have recharged to at least 80% of the original measured casing volume before sampling commences. If due to slow recharge rates it is not feasible to wait for the well to fully recharge, then note this on the Gauging Data / Purge Calculation Sheet and proceed to sample following the procedure below.

Sampling

8. **After completing groundwater measurement, and checking for free product if necessary, in accordance with SounPacific's Standard Operating Procedures for Groundwater Level Measurements and Free Phase Hydrocarbon Measurements, and after purging monitoring wells as described above, groundwater samples may be collected.**
9. Slowly lower a clean, previously unused disposable bailer into the well water approximately half of the bailer length, and allow the bailer to slowly fill.
10. Withdraw the full bailer from the monitoring well and utilize the included (clean and unused) bottom-emptying device to fill the necessary sample containers, and seal the container with the included PTFE (Teflon) lined cap.
11. When filling VOAs, fill the VOA completely full, with the meniscus rising above the rim of the bottle. Carefully cap the VOA and invert it and gently tap it to determine whether air bubbles are trapped inside. If the VOA contains air bubbles, refill the VOA and repeat this step.
12. All samples shall be labeled with the Sample ID, the Sample Date, and the Sample Location or Project Number. Use an indelible marker for writing on sample labels.
13. Record all pertinent sample data on the Chain of Custody.
14. Place samples in an ice chest cooled to 4°C with ice or "blue ice". Bottles should be wrapped in bubble wrap, and VOA's should be inserted in a foam VOA holder to protect against breakage. Samples are to be kept at 4°C until delivered to the laboratory. Any transference of sample custody shall be indicated on the Chain of Custody with the appropriate signatures as necessary.
15. Utilize clean, previously unused gloves, bailer and line, and bottom-emptying device for each well sampled.
16. When finished with all sampling, close and secure all monitoring wells.
17. Leave the site cleaner than when you arrived and drive safely.

Appendix C

GAUGING DATA/PURGE CALCULATIONS

Job Site: McKinleyville 76Job No.: SP-140Event: 13th Quarterly SamplingDate: 9-30-05

SounPacific
Environmental Services
(707) 269-0884

WELL NO.	DIA. (in.)	DTB (ft.)	DTW (ft.)	ST (ft.)	CV (gal.)	PV (gal.)	SPL (ft.)	Bailer Loads	Notes
MW-1	2	12.51	6.21	6.3	1	3			
MW2	2	12.82	5.57	7.25	1.2	3.6			
MW3	2	11.2	6.61	4.59	1	3			
MW-4	2	12.21	7.11	5.1	1	3			
MW-6	2	12.22	6.67	5.55	1	3			

Explanation:

DIA. = Well Diameter

DTB = Depth to Bottom

DTW = Depth to Water

ST = Sanitised Thickness (DTB-DTW)

CV = Casing Volume (ST x cf)

PV = Purge Volume (standard 3 x CV,
well development 10 x CV)

SPL = Thickness of Separate Phase Liquid

Conversion Factors (cf):

2 in. dia. well cf = 0.16 gal./ft.

4 in. dia. well cf = 0.65 gal./ft.

6 in. dia. well cf = 1.44 gal./ft.

Sampler:

Tien-yu Tai

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10/03/05
FILE

Well Gauging/Sampling Report

Sheet 1 of 5

Date: <u>9-30-05</u>		Project Name: <u>Mckinleyville 76</u>		Project No: <u>SP160</u>		Well Number: <u>MW-1</u>	
Analyses Tested: <u>TPHg, TPPA BTXE, SOxys, TPld, TPtwo</u>							
Sample Containers: <u>3 HLL VOAs (40ml), 2 Amber Amber Glass Bottle (H)</u>							
Purge Technique:		<input type="checkbox"/> Bailor		<input checked="" type="checkbox"/> Pump			
Sonder Used:		<input type="checkbox"/> Water Meter		<input checked="" type="checkbox"/> Interface Meter			
Water & Free Product Levels							
Time	Depth to Water	Depth to Product	Notes:				
<u>1:21pm</u>	<u>6.21</u>		<u>No Sheen-</u>				
<u>1:43pm</u>	<u>6.21</u>		<u>-1</u>				
<u>End</u>							
Field Measurements							
Time	Total Vol. Removed (gal)	pH	Temp (F)	Cond. (ns/cm)	DO (mg/L)	DO (%)	
<u>2:28pm</u>	<u>0</u>	<u>6.90</u>	<u>65.79</u>	<u>0.473</u>	<u>3.40</u>	<u>36.5</u>	
<u>2:35</u>	<u>1</u>	<u>6.97</u>	<u>65.63</u>	<u>0.444</u>	<u>1.12</u>	<u>12.0</u>	
<u>2:39</u>	<u>2</u>	<u>7.00</u>	<u>65.82</u>	<u>0.452</u>	<u>1.01</u>	<u>10.9</u>	
<u>2:41</u>	<u>3</u>	<u>7.04</u>	<u>65.70</u>	<u>0.439</u>	<u>0.95</u>	<u>10.2</u>	
Field Scientist: <u>Tien-yu Tai</u>							

Well Gauging/Sampling Report

Sheet 2 of 5

Date: <u>9-30-05</u>		Project Name: <u>McKinleyville 76</u>		Project No: <u>SP-140</u>		Well Number: <u>MW-2</u>	
Analyses Tested: <u>TPHg, BTXE, 5oxyc, TPHd, TPHmd</u>							
Sample Containers: <u>3 HD VOA's (40 ml), 2 Amber Glass Bottle (1-L)</u>							
Purge Technique:		<input type="checkbox"/> Bailor		<input checked="" type="checkbox"/> Pump			
Sonder Used:		<input type="checkbox"/> Water Meter		<input checked="" type="checkbox"/> Interface Meter			
Water & Free Product Levels							
Time	Depth to Water	Depth to Product	Notes:				
1:24 PM	5.057		No screens				
1:49 PM	5.57						
End							
Field Measurements							
Time	Total Vol. Removed (gal)	pH	Temp (F)	Cond. (mc/cm)	DO (mg/L)	DO (%)	
2:58 PM	0	7.02	65.67	0.433	0.56	6.0	
3:02	1.2	7.04	64.95	0.339	0.66	7.0	
3:04	2.4	7.11	64.83	0.241	0.50	5.3	
3:08	3.6	7.05	64.67	0.208	0.48	5.1	
Field Scientist: <u>Tien-yu Tai</u>							

Well Gauging/Sampling Report

Sheet 3 of 5

Date: <u>9-30-05</u>		Project Name: <u>McKinleyville 76</u>		Project No: <u>SP140</u>		Well Number: <u>14W-3</u>	
Analyses Tested: <u>TPHg, BTXE, SOXys, TPHH, TPHmo</u>							
Sample Containers: <u>3 HIL VOAs (40ml), 2 Amber Glass Bottles (1-L)</u>							
Purge Technique:		<input type="checkbox"/> Bailor		<input checked="" type="checkbox"/> Pump			
Sonder Used:		<input type="checkbox"/> Water Meter		<input checked="" type="checkbox"/> Interface Meter			
Water & Free Product Levels							
Time	Depth to Water	Depth to Product	Notes				
<u>1:27P</u>	<u>6.61</u>		<u>No Sheen</u>				
<u>1:53P</u>	<u>6.61</u>						
<u>End</u>							
Field Measurements							
Time	Total Vol. Removed (gal)	pH	Temp (F)	Cond. (mcu/cm)	DO (mg/L)	DO (%)	
<u>3:23pm</u>	<u>0</u>	<u>6.95</u>	<u>65.07</u>	<u>0.516</u>	<u>0.43</u>	<u>4.6</u>	
<u>3:26</u>	<u>1</u>	<u>7.01</u>	<u>64.30</u>	<u>0.517</u>	<u>0.54</u>	<u>5.8</u>	
<u>3:29</u>	<u>2</u>	<u>7.09</u>	<u>64.34</u>	<u>0.516</u>	<u>0.41</u>	<u>4.4</u>	
<u>3:31</u>	<u>3</u>	<u>7.10</u>	<u>64.21</u>	<u>0.514</u>	<u>0.57</u>	<u>6.0</u>	
Field Scientist: <u>Tien-yu Tai</u>							

Well Gauging/Sampling Report

Sheet 4 of 5

Date: <u>9-30-05</u>	Project Name: <u>McKinleyville 76</u>	Project No: <u>SP140</u>	Well Number: <u>MW-4</u>				
Analyses Tested: <u>TAH, BTEX, 5 Oxy's, TTHd, TTHm</u>							
Sample Containers: <u>3 HIL Vials (40ml), 2 Amber Glass Bottles (1-L)</u>							
Purge Technique:	<input type="checkbox"/> Bailor	<input checked="" type="checkbox"/> Pump					
Sounder Used:	<input type="checkbox"/> Water Meter	<input checked="" type="checkbox"/> Interface Meter					
Water & Free Product Levels							
Time	Depth to Water	Depth to Product	Notes				
<u>1:29p</u>	<u>7.11</u>		<u>No Sheen</u>				
<u>1:58p</u>	<u>7.11</u>		<u>11</u>				
Field Measurements							
Time	Total Vol. Removed (gal)	pH	Temp (F)	Cond. (mS/cm)	DO (mg/L)	DO (%)	
<u>3:45pm</u>	<u>0</u>	<u>7.12</u>	<u>62.41</u>	<u>0.290</u>	<u>0.57</u>	<u>5.8</u>	
<u>3:48</u>	<u>1</u>	<u>7.01</u>	<u>62.00</u>	<u>0.260</u>	<u>0.51</u>	<u>5.2</u>	
<u>3:52</u>	<u>2</u>	<u>6.85</u>	<u>62.10</u>	<u>0.257</u>	<u>0.47</u>	<u>4.8</u>	
<u>3:54</u>	<u>3</u>	<u>6.77</u>	<u>62.01</u>	<u>0.247</u>	<u>0.59</u>	<u>6.0</u>	
Field Scientist: <u>Tien-yu Tan</u>							

